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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/701,201

11/04/2003

Simon Magarill

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03/16/2005

3M INNOVATIVE PROPERTIES COMPANY

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EXAMINER

CRANSON JR, JAMES W

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/701,201

Applicant(s)

MAGARILL, SIMON

Examiner

James W. Cranson

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-49, 59-68, 75, 81-86 and 92 is/are rejected.
- 7) ☒ Claim(s) 50-58, 69-74, 76-80, 87-91, 93-97 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/25/05 et al.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Prelim./Amdt

Receipt is acknowledged of the Amendment filed 8/12/2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 43, 47, 48, 56, 81, 85 and 86 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0202007 A1 to Yagi et al. As shown in figure 4, Yagi discloses illumination unit having first curved reflector axis, LED axis non-parallel to reflector axis, light from LED reflected to a focus and plane of reflector axis intersecting LED axis close to focus region.

Regarding claims 43 and 81, An illumination unit (38), comprising:

a first curved reflector (54) comprising a first reflecting surface (54a) that defines a first reflector axis (Ax); and

a first light emitting diode (52) positioned to emit light generally along an LED axis non-parallel to the first reflector axis (figure 4 shows non-parallel reflections), light from the LED being reflectingly converged by the first reflecting surface towards a first target focus (figure 4,[0057]);

wherein a first plane formed by the first reflector axis and the LED axis intersects the reflecting surface at an intersection region, the intersection region of the first reflecting surface extending closer towards the first focus than regions of the first reflecting surface outside the intersecting region (figure 4,[0056,0057]).

Regarding claims 47, according to claim 43, and claim 85, according to claim 81, first reflecting surface conforms to first surface of revolution about first reflector axis (figure 4,[0056,0057]).

Regarding claims 48, according to claim 47, and claim 86, according to claim 81, first reflecting surface conforms to ellipsoid (figure 4,[0057]), LED emitting area at first focus (figure 4), target focus approximately at second focus (figure 4).

Regarding claims 56, according to claim 43, and claim 92 according to claim 81, a reflective surface is supported by reflector support medium and is disposed between LED and medium (figure 4, 54a is reflective surface).

Claims 59--68 rejected under 35 U.S.C. 102(e) as being anticipated by US 2002/0191395 A1 to Fleury. An illumination unit with at least two ellipsoid reflectors and at least two LEDs is disclosed by Fleurt.

Regarding claim 59, An illumination unit, (figures 1-4) comprising:
reflector body having a body axis, reflector body comprising
first reflecting surface (24, figure 2,[0044]) with axis and focus
having shape that converges light from focus that is reflected (fig 2)
first and second reflecting surfaces are transversally about axis (fig 2)
and second axis is non-parallel with first axis (fig 2) so light from first focus

that is convergently reflected by first surface overlaps light convergently reflected by second surface (fig 2)

Regarding claim 60, according to claim 59, Fleury discloses first and second LEDs positioned proximate first and second axis emitting light in direction transverse to their axis (fig 2).

Regarding claim 61, according to claim 60, Fleury discloses first and second LEDs positioned approximately at the first and second foci respectively ([0057] fig 2).

Regarding claim 62, according to claim 59, Fleury discloses first and second axes are both non-parallel to the body axis (fig 2).

Regarding claim 63, according to claim 62, Fleury discloses first and second axes intersect the body axis at an intersect point (fig 2).

Regarding claim 64, according to claim 59, Fleury discloses first and second reflecting surfaces each conform to surfaces of revolution about first and second axes respectively(fig 2).

Regarding claim 65, according to claim 64, Fleury discloses first and second surfaces of revolution are ellipsoids([0044],fig 2).

Regarding claim 66, according to claim 65, Fleury discloses first and second ellipsoidal surfaces have major axes of substantially the same length and minor axes of substantially the same length (fig 2).

Regarding claim 67, according to claim 59, Fleury discloses first and second reflecting surfaces each define respective secondary foci (fig 2).

Regarding claim 68, according to claim 67, Fleury discloses the secondary foci of the first and second reflecting are approximately collocated on the body axis (fig 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 44-46, 49, and 82-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0202007 A1 to Yagi et al. The angle that first LED axis forms with first reflector axis is not mentioned by Yagi et al.

Regarding claims 44-46, wherein angle is $45 \text{ degrees} < < 90 \text{ degrees}$ or $60 \text{ degrees} < < 90 \text{ degrees}$ or approximately 90 degrees.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the angle that first LED axis forms with first reflector axis in the range recited in instant application because as shown in figure 4, the LED (52) is positioned such that the LED axis is positioned orthogonally with respect to the axis (Ax) as claimed in dependent claims 44-46. Further the angles recited are specific to an ellipsoid.

Regarding claim 49, according to claim 43, first reflector is formed of a transmitting medium.

Yagi does not disclose the material from which the reflector is made. Yagi in figure 4 discloses the claimed invention except for the material from which the reflector is made. It would

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have been obvious to one of ordinary skill in the art at the time of the invention to provide Yagi with a transmitting medium for the reflector because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use for prior art does not make the claimed invention patentable over that prior art (In re Leshin, 125 USPQ 416).

Regarding claim 75, according to claim 59, reflecting surfaces are multi layer optical film.

Fleury does not disclose the material from which the reflector is made. Fleury discloses the claimed invention except for the material from which the reflector is made. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide Fleury with a multi layer optical film for the reflector because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use for prior art does not make the claimed invention patentable over that prior art (In re Leshin, 125 USPQ 416).

Allowable Subject Matter

Claims 50- 58, 69-74,76-80, 87-91,93-97 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:
Claims 50- 52, according to claim 49, and claims 88-90 add that first reflector has an aperture.

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Claims 53, according to claim 49, and claim 91 according to claim 87, add that transmitting medium has concave surface for LED, part of lens of LED in the concavity.

Claims 54 and 55 depend from claim 53 and would be allowable for same reasons.

Claims 57, according to claim 43, and claim 93 according to claim 81, add a second reflector.

Claim 69, according to claim 59, add a third reflector.

Claims 70 - 74 depend from claim 69 and would be allowable for same reasons.

Claims 76- 80, according to claim 59, have limitations pertaining to the reflector surface.

Claims 89 - 91 depend from claim 87 and would be allowable for same reasons.

Claims 95 - 97 depend from claim 93 and would be allowable for same reasons.

The limitations in the dependent claims listed above are not found or taught in the art of record.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are USPN 5,782,553 to McDermott and US 2002/0105807 A1 to Loughrey.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368.

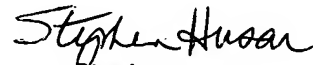
The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).




Stephen Husar
Primary Examiner